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Art. I.—HISTORY OF VACCINATION IN CHINA.

BY W. BECK DIVER, M. D.

Macao, May, 1840.

To the Editor of the American Medical Library and Intelligencer.

Dear Sir,

As the discovery of the vaccine virus forms an interesting and important part of the history of medical science, the following sketch of its introduction and progress in China may not be devoid of interest to the readers, or wholly unworthy of a place in the pages of your valuable journal.

In the spring of 1805, and whilst James Drummond, Esq., was at the head of the affairs of the honourable the East India Company in this country, the vaccine was brought by Mr. Hewit, a Portuguese subject and a merchant of Macao, in his vessel, upon live subjects from Manilla;—his Catholic majesty having had it conveyed by suitable means, and under the care of professional men, across the the South American continent, to his settlement in the Phillipine Islands. One of them, Sr. D. F. X. Balmis, stated himself to have introduced the practice of vaccine inoculation into this country; but before his arrival in China, it had been quite extensively conducted by the Portuguese practitioners at Macao, as well as by Alexander Pearson, Esq., chief surgeon to the British Factory, and a tract upon the subject (an abstract of which I subjoin) drawn up by this gentleman had been translated by Sir George Staunton into Chinese, and published several months before his arrival. As the inoculation among subjects connected with the foreign society, or with the settlement of Macao, was deemed nugatory towards an establishment of the practice in China, it was from the beginning conducted, first at some expense, by inoculations at stated periods among the natives,—and of them, necessarily, the poorest classes, who dwelt crowded together in boats or otherwise, so that (the small-pox being, invariably, an annual epidemic in this province,) its efficacy soon came to the test. By the time the British factory removed from Macao to Canton in that season, a degree of confidence had been established in its favour; and in the course of the winter and spring months of 1805–6, and during the raging of the small-pox (of which the annual period of attack is in February, and of its decline early in June,) the number brought for inoculation was great.

At that time it was considered judicious to endeavour to give the practice extension by vaccinating as many as possible, not fully aware of the characteristic apathy of the Chinese to what does not immediately appeal to

their observation through the exigency of their sufferings or interests, and erroneously thinking that such a benefit, to be appreciated, required but to be known. Very many (it may be safely said thousands) were inoculated in the course of twelve months; and even under the circumstances stated, and in that early stage of the pursuit, no imputation was laid against the success of the practice which admitted of being traced,—an instance of good fortune the less to have been expected, because, in order to fulfil the views which had been taken of the most proper means for its dissemination, several Chinese were instructed in its details, and they practised it extensively, as well at a distance from as under Mr. Pearson's inspection.

When the small-pox ceased to be an epidemic, the evil and the remedy against it were equally forgotten; and great difficulty was found in procuring a sufficient number of subjects by means of which merely to preserve the vaccine. In fact, since its first introduction into China, it has been several times extinct; in two instances it was again brought from the islands of Leuconia. At two other times, when lost at Macao and Canton, it has been found to have been kept up in the country districts at considerable distance from either, but still within the province of Canton.

The practice spread greatly from among the lower classes of society, so as to have become general among the middling ranks, and to be frequently resorted to by those of the higher conditions.[1]

Reports of failure were occasionally spread; and although the difficulty of tracing such when stated was a great incidental drawback, and though the occurrence of variola, measles, pemphigus, and cutaneous eruptions, in persons previously vaccinated was attributed to the variolous infection; yet, upon the whole, the confidence in its efficacy, though gradually conceded, became full, grounded upon ample and annual evidence before adverted to, with fewer obstacles from prejudice than could be anticipated, especially in a Chinese community. The circumstances which in England had shaken the public confidence as to the practice were communicated to the Chinese inoculators, and it was endeavoured to see or learn the details of every case of rumoured failure. The result proved satisfactory, although at the time the investigation was made the small-pox had prevailed in a usual degree of severity, and was attended with mortality. Two descriptions of cases were traced: one in which the supposed vaccination had been with spurious matter, or otherwise imperfectly or unskilfully conducted; the other, when a modified small-pox had actually ensued after inoculations which had been made and had proceeded regularly. Of the first description, though numerous, none presented themselves who had been vaccinated under inspection, or at the Canton institution. Of the second the number was few, but too many to allow of any doubt as to the occurrence. In such cases, with from 50 to 200 eruptions, the fever was slight,—it went off when the eruption appeared, and that desiccated about the fifth day, leaving no marks; answering closely to the real phenomena of the chicken-pox, with which the Chinese are familiar, as occurring after small-pox, or variolous inoculation practised in their mode.[2]

From their medical practitioners, especially those who devoted themselves peculiarly to the treatment of small-pox, it at first met with strenuous opposition; and it may still be said to meet with little acceptation.

There remained only one prejudice to contend with, entertained against submitting the children to vaccination during the great heats of the summer and autumnal months, arising no doubt from an observation, generally just,

[1] During the spring of 1833, and partly, perhaps, in consequence of the unusual prevalence of the small-pox, the practice was very extensive in Canton, and a little grandson of the governor Loo was among the subjects vaccinated.

[2] The Chinese mode is to place a little of the virus, taken from a former patient, dried and reduced to powder, on cotton wool, and to insert this in the nostril. This practice is not unfrequently followed by blindness.

that the majority of diseases attacking or brought on at these seasons are more than usually dangerous or severe.

With a view to the removal of this impediment, some of the principal members of the Chinese corporation, in whom is vested the exclusive privilege of conducting the foreign trade, have established a fund for affording gratuitous inoculation to the poor at all times, especially framed, and judiciously so, to allot small premiums to those who bring forward their children at that objectionable period. The practice is conducted at their hall for meetings, commonly called the "Consoo House," by the Chinese vaccinator, and great numbers are there made the subjects of the virus, with a success equal, perhaps, to that of any other place in the East.

Though the practice met in this province with encouragement, it encountered singular obstacles in another quarter. After having extended to the province of Keang-sy, adjoining Canton to the northeast, it was suddenly dropped there, being opposed by the jealousy and cupidity of the Budhist priests, who, in that part of China, had a double interest in the *preservation* of the small-pox. In the first place, they were much employed in the business of inoculation after the Chinese method; and secondly, they were well paid for certain ministrations with their deities[1] to avert or mitigate the scourge. Thus it was that these worthies, who benefited by the harvest, always wished to leave a little for seed. The breaking out of the scarlet fever unfortunately afforded them plausible ground of crimination against a practice, which was said to retain the poison in the system, to appear at a future time in still worse shapes.

In the autumn of 1820, Mons. Despiana, French surgeon in the service of the king of Cochin China, arrived, bringing a letter from Mons. Vannier, then acting as minister to that sovereign, requesting furtherance to his mission, which was to convey vaccine to Cochin China, for which place he departed in February, 1821, and succeeded in his object.

It is known to have been conveyed again to Keang-sy, as well as to Keang-nan and Tuhkèén provinces; it has also reached Peking, but unfortunately was again lost there.

On my arrival here last autumn, I found the virus extinct, and was informed that the small-pox the year previous had been unusually severe and destructive. Having occasion to visit Canton in December, on my return to Macao the same month, I brought with me a child who had been vaccinated at the Consoo House a few days previous to my departure by the Chinese vaccinator, Heen-qua, purser to Mow-qua, one of the senior Hong merchants.

The practice was thus revived again, and the virus freely circulated among the Chinese and Portuguese population. In order to ensure a considerable quantity of the lymph, and the return of the children to the hospital, several punctures were inserted into each arm, and the parents or guardians required to deposit a sum of money, which would be refunded on their return at the appointed time, the eighth or ninth day.

The virus having become extinct at Singapore, I enclosed some fresh lymph in wax, between plates of glass, and sent it down; and have had the pleasure of being informed, under date of April 3d, that its introduction was successful. There has always been great difficulty experienced by the physicians at Singapore in keeping up the vaccine, from what cause is not known. Whether the difficulty is equally as great with the native as with foreign population, I have not ascertained; perhaps a solution of this question may throw some light upon the subject.

The following is an abstract of the contents of a Chinese work on the Vaccine Inoculation, originally written in English, by Alexander Pearson, Esq., translated into Chinese by Sir George Thomas Staunton, Bart., and

[1] They have one particular goddess called "Tèèn hwa shing moo," which has been construed "Our Lady of the Small-pox."

printed at Canton in 1805, at the expense of the East India Company, under the direction of James Drummond, Esq., then president of the select committee, and with the sanction of Grew-qua, a Chinese merchant of the privileged class.

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Origin of the small-pox,—when and where first known,—its dreadful ravages on the human frame and race. First introduction of common inoculation, a remedy, but an imperfect one,—description of it. At length the vaccine disease is discovered in England,—certain persons employed in milking cows are found not to contract the disease of the small-pox. This fact comes to the knowledge of Dr. Jenner,—he investigates the cause,—discovers blue pustules on the udder of the cow, and conceives the idea of applying the matter arising therefrom to the human body as a preventive to the contagion of the small-pox. On experience it is found that on the fourth day a pustule appears—on the eighth or ninth it fills with matter—and on the fourteenth disappears. The practice is approved, and extends all over Europe, Asia, and America,—millions are thus inoculated, and protected against the ravages of the natural small-pox. The king of Spain, highly approving of it, sends children who had been inoculated with this vaccine virus in his ships to various parts of his dominions, especially the Philippine Islands, from whence this vaccine matter has now, in the 4th moon of the 10th year of the reigning emperor, Kia-king, been at length obtained in China. The English and Portuguese physicians residing on the spot have introduced the practice,—some hundreds have already been inoculated, without one instance of failure. Recapitulation,—essential difference between the vaccine and the small-pox,—mode of inoculation minutely described,—progressive symptoms,—genuine pustule how distinguishable,—mode of conveying the virus upon needles to a distance,—false or spurious appearances described,—regimen proper to be observed by the patient.

Most respectfully yours,

W. Beck Diver.

Professor Dunglison.

Art. II.—ON THE CONTRACTILITY OF THE BLOOD-VESSELS.

BY DR. HENLE, OF BERLIN.[1]

The object of the author in the present paper is to offer anatomical evidence in favour of the views respecting the nature of inflammation which he expressed in his "Pathological Investigations," and of which we gave a full analysis in our number for April last. He now, in support of those opinions, advances that the structure of the middle coat of the artery is intermediate between cellular and muscular tissue; and that the vessels must therefore be liable to those changes of calibre under the direct or sympathetic influence of the nerves to which he believes that inflammation is due. With reference to his conclusions, we can only repeat the opinion given in the review already mentioned, that mere dilatation of blood-vessels is not inflammation, and that, even if it were proved that depression of the supposed motor nerves of the blood-vessels could result as an antagonist phenomenon of the excitement of the sensitive nerves, this would constitute but one, and not the most important part of inflammation. However, the present anatomical observations of the author are not much the less interesting because he makes them the groundwork of incorrect pathology; if true, they afford additional proof, and indeed the only evidence that was wanting, to establish that the blood-vessels are subject to changes of their calibre

[1] Casper's Wochenschrift, Mai 23, 1840; and Br. and For. Med. Rev. Oct. 1840, p. 551.

under other than mere physical influences. And it is but fair that this evidence should be supplied from the school of Müller, who has done so much to throw discredit on the opinions of those who regarded the fact as already reasonably demonstrated.

The microscopic elements of the middle coat of the artery are broad and very flat slightly granulated fibres or bands, which lie in rings around the internal membrane. In the innermost layers they readily break up into tolerably similar long rhombic lamellæ, which are much like flattened cuticle cells, but are longer in proportion to their breadth. Of these lamellæ some are quite homogeneous, others present at one part a dark oval spot of the form of the common nuclei of cells, which lies with its greatest diameter in the long axis of the lamellæ; and, lastly, on others this spot is drawn out into a longer and fine dark streak, which often extends over the whole lamella, but often over only a part of it, and often is replaced by a row of small dark points.

In the more external layers, the lamellæ unite into long and very seldom, if ever, branched fibres; the dark streaks also become connected together, not only joining with one another by their ends, but at the same time sending off lateral branches by which they anastomose. Thus the middle coat of the artery consists of numerous layers of granulated transverse bands (of 0·003 lines diameter), and of a system or network of dark streaks among them. These have some resemblance to elastic fibres, and have given rise to the opinion that this coat consists of elastic tissue. But a true elastic coat exists only on the larger arteries external to the middle one. The granulated bands of the middle coat dissolve in acetic acid, the dark branched streaks do not, and they may therefore by its means be easily demonstrated.

In the larger veins there is an exactly similar layer of transverse fibres next to the inner coat; but it is always very thin, and may be entirely absent. (In the inner coat of the veins, however, a longitudinal layer of such fibres, which is much thinner or absent in the arteries, is in general considerably developed.) If one follows these fibres outwards, it is seen how, though at first they were straight and stiff, they gradually assume the peculiar waviness of fasciculi of cellular tissue, and how at last there appears in them an obscure and then a more and more evident breaking up into separate parallel and tortuous filaments; for each granulated flat fibre there is a fasciculus of cellular tissue. The dark streaks on these fasciculi at first form a network like that which they present on the granulated fibres of the middle arterial coat; gradually they become finer and more translucent, the lateral branches fade, and nothing is seen but dark and very large wavy fibres, such as universally occur between the fasciculi of cellular tissue. These fasciculi become pale and dissolve in acetic acid; the fibres remain.

If the muscular coat of the stomach or of the intestine be examined successively from the serous to the mucous membrane, there are found externally lamellæ similar to those in the innermost layers of the middle arterial coat, with the same nuclei and the same development of the nuclei into streaks. Towards the mucous membrane the laminæ coalesce into broad fibres, the well-known organic muscular fibres which in their microscopic and chemical characters agree with the fibres of the middle coat of the artery, but which frequently exhibit obscure divisions into finer parallel fibres. The dark streaks are much finer, fewer, less branched, and more similar to the fine interstitial fibres of the cellular fasciculi just mentioned. The so-called muscular *fibres* of the stomach and intestines, then, correspond to the *fasciculi* of the cellular tissue and of the striated muscles.

I have not yet, says Dr. Henle, traced the transition from the organic muscular fibres to the striated muscular fasciculi, and I shall merely mention that in the latter also the system of dark interstitial fibres insoluble in acetic acid occurs sometimes in the form of nuclei, sometimes of longer

streaks, and sometimes of extremely fine wavy fibres. It is well known that the organic and striated muscular fasciculi dissolve in acetic acid. The chemical difference between the middle coat of the artery and the muscles is explained by the predominant quantity of interstitial fibres in the former. The anatomical identity of the above-mentioned tissues in all essential points is thus, I believe, demonstrated: with the less essential anatomical differences there correspond differences of functions. The striated muscles are generally subject to the will, and react on mechanical and electric stimuli, but not on the application of cold; the heart is an exception, having striated fasciculi, but not being voluntarily moveable; the organic muscles react as the striated do, but are removed from the influence of the will; the middle coat of the artery is anatomically similar to the organic muscular membrane, it is, like them, involuntary, it reacts, like them, on mechanical stimuli, and also on the application of cold, but not of electricity; the contractile cellular tissues, for example, the tunica dartos, similarly involuntary, has the same relations to cold as the middle coat of the artery, but is not excited to contraction by mechanical impressions. In the animal muscles contraction following upon irritation is sudden and single; in the heart sudden and peristaltic; in the intestine slow and peristaltic; in the arteries and the cellular tissue slow and continuous.

The contractility of the larger arteries is proved by experiment, and we may venture to ascribe it to the smaller ones as far as they agree in structure with the larger, that is, so far as the layer of circular fibres is continued. Now this may be recognised on vessels of from 0·015 to 0·002 of a line in diameter, by rendering them transparent with acetic acid and examining them under the microscope. The interstitial dark streaks are then seen running straight or somewhat obliquely round the vessel, at distances from each other which are equal to the breadth of a granulated fibre, in single layers on the small, and in numerous layers on the large vessels. Separate fibres may also be exhibited on arteries of this size by tearing them. In smaller arteries, however, this is not possible: but even on those of 0·007 of a line in diameter (including their walls), there may be seen over the epithelium a layer of transverse, oval, and in part very elongated nuclei, which may be recognised as the origins of the dark interstitial fibres of the middle coat, by the circumstance that there is a gradual transition to the form of the latter, and that they already lie at the same distance from one another. Between them, therefore, the same substance must exist as between the interstitial fibres of the middle coat of the larger arteries, though it is not yet arranged in separate circular fibres. In vessels of this degree of minuteness, the distinctions between arteries and veins are no longer to be discerned. Capillaries of less than 0·007 diameter (the smallest are from 0·002 to 0·003) have indeed separate transverse oval nuclei, but they have no special middle coat. The smallest consist only of a thin quite structureless membrane, in which oval nuclei lie here and there in a longitudinal position; those that are something larger have an epithelium of nuclei within this structureless primary membrane. . . . . .

For the opinion that the contraction of the membrane of the vessels, like that of the muscles, is under the influence of the nerves, I can adduce an anatomical fact. Purkinje has seen fine nervous twigs on the cerebral vessels of sheep; and Valentin both on them and on many other blood-vessels; and I have myself often observed nervous filaments presenting the character of the so-called organic fibres on small vessels such as one can see undissected with powerful lenses. On a vessel of the pia mater of one fifth of a line in diameter, I saw such a nervous fasciculus (of 0·009 of a line in diameter) ascending to the upper wall of the vessel, which was turned towards the eye, then turning round it to its posterior wall, and then continuing its course in the same direction. I have seen this winding of the nerves round the vessels only on very small portions of the latter, but I have observed it so often that I cannot regard it as an accident. In one case a

smaller fasciculus was given off; it consisted of only three or four fibres, and passed along the vessel.

Art. III.—ON THE OPERATION FOR STRABISMUS.

BY PROFESSOR DIEFFENBACH.[1]

Since my first communication on this operation, it has had such a general reception and has acquired such an importance as I did not at that time anticipate. Upwards of 300 cases have been operated on by me within a few months, and both in Berlin and in other places my proceeding has been frequently imitated. I propose to give here a short general view of the results of my observations.

The youngest individuals in whom I have undertaken the division of the shortened muscle of the eye were five years old: the oldest were upwards of forty.

Sometimes one, sometimes both eyes squinted, and the operation had generally the same favourable result in both cases. When both eyes were affected, I either operated first on that which squinted most, and when that was quite well on the other, or else on both at the same time.

Squinting inwards, from shortening of the rectus internus, was by far most frequent. Sometimes the trochlearis muscle was also shortened, so that it was necessary to divide it as well as the rectus. In the whole number of those I operated on there were only a few who squinted outwards, and still fewer in whom the eye was directed upwards, or upwards and inwards. I found no eyes at all that squinted downwards.

Strabismus upwards was sometimes complicated with blepharoptosis. The division of the rectus superior not only cured the squinting, but the ptosis gradually diminished after it.

Strabismus outwards or inwards was often complicated with nystagmus bulbi. After the division of the external or internal rectus, not only did the squinting cease, but in general the nystagmus also. In other cases, however, the latter was persistent, and did not decrease till after the division of the rectus superior, or obliquus superior, or rectus externus.

When cataract and strabismus coexisted, the operations for both were done at the same time, and the result was in every case favourable to both.

In most of the patients the strabismus had commenced in very early childhood, after ophthalmia neonatorum, scrofulous inflammation of the eyes with ulcers on the cornea, or after acute exanthemata, &c. In many there were cicatrices on the cornea or cataracta centralis. In cases of the former kind, in which hitherto artificial pupils would have been made, the operation was attended by success and considerable improvement of the sight.

All those who had strabismus of only one eye, saw more weakly with it than with the other; in those who squinted with both eyes, that which was turned least was usually the stronger. The weakness of the one eye had been observed by only a few of the patients; they had naturally looked only with the better eye, and the other had been unemployed. The operation completely cured the weakness of sight; some who had actually amaurotic amblyopia could see clearly directly after it was performed.

Some of the patients previous to the operation often saw double; this defect continued for some time after it, and then gradually ceased. Some others who had never seen double before did so immediately after the operation. These had been in the habit of looking only with their strong eye, while the other had been unused. The improved position of the latter compelled it to see; but the double vision was subsequently lost.

[1] Casper's Wochenschrift, July 4, 1840; and Br. and For. Med. Rev. Oct. 1840, p. 570.

Some who were operated on did not see so well immediately after as before the operation; but after some exercise this weakness of vision ceased and they could then see quite clearly. The cause of this was, that when the eye was put in its normal position, a point of the retina which was before unexercised was now brought into play, and required some practice before it could fully discharge its functions.

Operation. That for strabismus convergens is here taken as the type. The operator always stands on the right side of the patient, whether he be operating on the right or on the left eye. The patient sits on a stool, and an assistant standing behind him draws up the upper eyelid with a Pellier's hook. A second assistant draws down the lower eyelid with a double hook, which is set in a handle, and of which the teeth are connected by a transverse piece. He kneels down before the patient so as not to be in the way.

The operator then puts a fine hook into the conjunctiva at the inner angle of the eye, just where it is passing from the palpebræ to the bulb, passes it superficially through it, and gives it to a third assistant who stands on the left side of the patient. The operator next passes a second hook in the same way through the conjunctiva, about a line and a half from the first. He and his assistant then both at the same time draw their hooks a little up, so as to raise a fold of the conjunctiva, and at the same time pull the bulb somewhat outwards. The fold is then divided with a pair of curved eye-scissors; and this cut usually at once exposes the tendon and the anterior part of the muscle. A couple of cuts with the scissors then expose the outer surface of the muscle; a rather blunt hook is passed under its tendon, and the two sharp hooks that held the conjunctiva are now removed; the eye is held completely in the power of the blunt hook, and is to be drawn by it from out the internal angle of the orbit. A flat probe is then pushed under the muscle, and the loose connection by cellular tissue between it and the eye is broken up. The division of the muscle is made by the scissors already mentioned, either, first, through the tendon in front of the hook; or, second, behind the hook, at the beginning of the muscular substance; or, third, some lines deeper back.

When the tendon is divided, nothing of it remains on the eye, and the muscle commonly retracts a line backwards. When the muscle itself is divided at its anterior part or further back, its posterior portion retracts, and the anterior, which remains connected with the bulb, turns forwards like a loose flap, which, according to circumstances, may be removed by the scissors or pushed back into the wound if it is thought desirable that it should unite again with the posterior portion.

In practised hands the whole operation seldom lasts more than a minute; and it is done almost without pain. When finished, the eye is cleaned with cold water and a soft sponge. The after treatment consists of cold lotions, and very great abstinence from food and strong drinks. The patient should be kept in a darkened room. In most cases the wound heals very quickly, and after a few weeks no traces of the operation remain, and the eye stands in its normal position.

The operation for internal strabismus is by far the most easy; the division of the obliquus superior for squinting upwards and inwards is more difficult; that of the rectus internus for strabismus divergens is more difficult still; and the most difficult of all is the division of the rectus superior for squinting upwards. With respect to the manipulations of these operations, they are just the same as those for strabismus convergens.

Remarks on the operation. The fixing of the upper and lower eyelids with the elevator and the hook, so as to expose the whole of the anterior surface of the globe, is indispensable, for neither the will of the patient nor the separation of the lids by the finger can do this effectually.

The fixing of the globe can be accomplished only by fine hooks carried superficially through the conjunctiva; the seizing and elevation of the fold of conjunctiva by forceps sounds more gentle than to do it with a sharp

hook, but it is in reality far more painful, more injurious, and more insecure; the fold raised up by the forceps easily tears or slips from their grasp, and if the forceps are made with hooks, they wound as well as pinch the membrane. Two hooks must be employed to make the fold tense enough.

The great number of operations that I have performed has given me opportunity of observing the phenomena that ensue subsequently to them, and their after consequences. The question here is only of internal strabismus, but any surgeon will easily supply the necessary modifications for the operations in the other varieties. In the first case, the eye after the division of the muscle goes into its normal position. In the second it remains in some degree squinting. In the third it turns outwards.

In my first operations, the position of the eye after the division of the muscle was left to chance, but I gradually succeeded in getting it into my own power to determine it. If there be the slightest degree of convergent strabismus, only a very small opening should be made in the conjunctiva, and the tendon only divided close to the eye, without separating the muscle from the globe. In this case the eye at first almost maintains its previous position, but after some weeks it becomes straight. If the conjunctiva be more extensively divided, and if the under surface of the muscle be separated from the globe with a probe and then cut across, the squinting is at once nearly or completely removed. If the conjunctiva be divided over a greater arc and towards the back of the globe, if the cellular tissue be extensively separated and the muscle be detached far back and divided at its middle, then the eye, even in cases in which the whole cornea was before hidden in the internal angle, stands quite straight after the operation.

Hundreds of those whom I have cured have been seen by our own and by foreign medical men, and it was often impossible to distinguish the eye that had squinted from the other.

In some who still squinted slightly after the operation, the position of the eye was made perfectly normal by tying up the sound eye and rolling the globe forcibly outwards so as to stretch the newly-formed uniting substance. In others of those whom I first operated on, in whom I had not adopted this after measure, I repeated the operation; and I found that in fourteen days after its first division the muscle was again intimately united with the globe, and that with the exception of a slight thickening and induration of this part, there was no indication of a previous operation.

Immediately after the operation the eye can be moved inwards by the superior oblique, and at a later period by the divided muscle, which has again united with the globe. In several persons in whom the muscle was divided deeper in the orbit, the eye turned outwards some weeks after the operation, so that there was actually an external strabismus. If the divergence was but slight, it was often sufficient to snip (*betupfen*) the conjunctiva at the inner angle, so as, by the shortening of the membrane that was thus produced, to bring the eye into the middle. But if the divergence was greater, I then divided the external rectus and the eye became straight again, especially when I at the same time removed a fold of conjunctiva from the internal angle, for the cicatrix that then followed tended to draw the globe inwards. If the eye, notwithstanding the division of the external rectus, still remained turned outwards, I then, after dividing and separating that muscle, tied a thread as fine as a hair upon its tendon, and with this pulled the eye forcibly inwards. The end of the thread was then drawn tightly across the bridge of the nose and fastened to a piece of good adhesive plaster, which was stuck upon the opposite side. The result for the most part surpassed my expectations.

BIBLIOGRAPHICAL NOTICES.

A Second Appeal in regard to the Insane Poor.[1]

It may be recollected by many of our readers, that nearly two years ago an appeal was made to the people of Pennsylvania on the subject of an Asylum for the Insane Poor. This appeal was prepared by the committee of which the editor of this Journal was chairman, and it was published in the "Library" department. Subsequently, memorials were sent to the senate and house of representatives, before whom a bill was introduced, accompanied by a report from Mr. Konigmacher—the chairman of the committee to whom the subject had been referred.

The bill passed the house of representatives with but slight opposition, and the senate unanimously; but on account of the exhausted condition of the treasury, it did not receive the sanction of the executive. Governor Porter, however, deplored—in feeling language—"the stern injunctions of duty, by which he was governed," and expressed his belief, that "at no distant day the Commonwealth would be so far extricated from her embarrassments as to be able, without inconvenience, to accomplish the laudable undertaking."

"Participating," observes the preface of this "Second Appeal," "in the benevolent sentiments expressed by Governor Porter; impressed with the irreparable evils which must result from delay, and believing that the period had arrived for farther action, and that certain objections which were made against the former bill could be entirely obviated, the committee of citizens, at a meeting held on the 25th of September last, appointed a sub-committee, consisting of Robley Dunglison, M. D., Isaac Collins, and the Rev. C. R. Demme, D. D., to prepare a second appeal to the people of Pennsylvania, which should embrace such portions of the former appeal, and of the report made to the legislature, and such other information, as the sub-committee might think proper.

"At a meeting of the committee, held on the 9th of October, 1840, the sub-committee, through their chairman—Dr. Dunglison—reported the following appeal, which was approved; ordered to be printed, to be signed by the chairman and secretary of the committee, and to be published under the direction of the sub-committee in such form as to secure its most extensive circulation."

Remarks relative to Dr. Paine's Commentaries upon the Writings of Louis, by H. I. B.[2]

These remarks appeared originally in the Boston Medical and Surgical Journal, and were written—the author states—"under the influence of the keen feelings produced by the unfairness, as he thought, of Dr. Paine, in his criticisms upon Louis's writings." These feelings are but too perceptible in the remarks. The author is an estimable individual; but his zeal for a favourite preceptor has outrun his discretion. The "remarks" are polemical throughout, and often—what is always to be deprecated—personal.

Dr. Paine is engaged in replying to them in the same Journal; and under the provocation is rendering himself liable to a similar animadversion.

[1] A Second Appeal to the People of Pennsylvania on the subject of an Asylum for the Insane Poor of the Commonwealth. 8vo, pp. 35. Philadelphia, 1840.

[2] Pp. 32. Boston, 1840.

MISCELLANEOUS NOTICES.

Experimental Researches on the Functions of the Encephalon, considered in relation to Sensation, Station, and Progression. By M. Monat.[1]—This is a long report to the Royal Academy, in which the author, after proving the insensibility of the brain, endeavours to point out the functions of its different portions. In this, however, he has but partially succeeded, and the committee, MM. Ribes, Blandin, Amussat, and Bouillaud, come to the following conclusions: 1. That the three great nervous centres, the spinal marrow, the cerebrum, and the cerebellum, have distinct and special functions. 2. That sensation, properly so called, and motion, are under the immediate and direct influence of the spinal marrow, and have each particular nerves. 3. That the brain presides over the various manifestations of intelligence and volition. 4. That the cerebellum plays an important part over the functions of *progression* and *station*. As to the functions peculiar to particular parts of the nervous centres, much yet remains to be done for their determination.

On the Production of Chronic Ventricular Hydrocephalus, in consequence of the pressure exercised by tuberculous masses of the Cerebellum on the Straight Sinus. By M. F. Barrier.[2]—[The object of this paper is sufficiently evident from its title; two cases are carefully narrated, which at least prove coincidence of the two anatomical states referred to, while analogy favours the notion that the obstruction to the return of the blood through the straight sinus may have been the cause of the local dropsy. These cases the author himself candidly admits may be of very rare occurrence; nevertheless, as we agree with him in regarding the point as one of no mean interest, we extract some of his general remarks respecting it.]

The anatomical conditions capable of explaining the production of this form of hydrocephalus are: 1, the presence of the tuberculous mass in the *middle lobe* of the cerebellum; 2, its forming a considerable projection on its superior surface, so as to push the tentorium cerebelli upwards and exercise pressure on the straight sinus Other conditions conducing to the same result might also be encountered; thus inflammation might lead to adhesion of the tumour with the tentorium, and gradually spreading to the interior of the sinus, determine the formation of a coagulum, which in its turn would oppose the circulation of the blood returning through the venæ Galeni from the ventricles; these veins might also undergo pressure on their egress from the fissure of Bichat. It is evident that obliteration of these vessels, as well as of the straight sinus, can only produce one species of hydrocephalus, that of the ventricles, as the veins springing from the walls of these cavities form a system apart.

There may, it is true, be found in authors numerous cases of tuberculous growth in the cerebellum unattended with ventricular dropsy; but it will be perceived, in all those related with detail, that the tumour was seated either in the lateral lobes or at the inferior surface of the cerebellum, or that, if developed at the upper surface, it did not protrude upwards sufficiently to exercise pressure on the straight sinus. On the other hand, chronic non-congenital hydrocephalus is frequently seen without coincident tumour in the cerebellum.

On the Danger of applying Leeches which have been previously used. By M. Puche.[3]—The transmission of virus by the fangs of leeches is an

[1] Bull. de l'Acad. Roy. de Méd., Juin 17, 1840; and Br. and For. Med. Rev., Oct. 1840, p. 554.

[2] Gaz. Méd. de Paris, No. 17, Avril, 1840; and Br. and For. Med. Rev., Oct. 1840, p. 559.

[3] Bulletin Général de Thérapeutique, Juillet 30, 1840; and Br. and For. Med. Rev., Oct. 1840, p. 563.

important question, and worthy of examination. M. Puche, physician to the hospital of Midi, has treated a patient in his wards, who affords a convincing proof of the danger of employing leeches which have been employed before. A messenger, æt. 24, was admitted into the hospital with urethritis of four months' standing, which had been recently complicated by acute inflammation of the epididymis. The epididymitis was the consequence of excessive labour, not of arrested discharge. Many applications of leeches were made to the hypogastric region for its removal. Five of the leeches applied were purchased at a low price by the nurse. Their bites inflamed, and took the aspect of Hunterian chancres. Now these syphilitic ulcers were too recent to have arisen from the same impure connection that produced the gonorrhœa; but as it was possible that they were occasioned by the gonorrhœal matter comming into contact with the leech-bites, M. Puche, to satisfy himself, inoculated one part with the whitish discharge, and another part with the pus of the ulcers, on the 28th of February, 1840. On the 4th of March the inoculation of the urethral matter had produced nothing, while that of chancres had given an ecthymous pustule, which had the regular development of syphilitic pustules, and terminated by an indurated and coppery cicatrix. It is argued that the ulcers proceeded from the leech-bites, (the leeches had certainly been employed on a syphilitic patient,) and that they had conveyed the infection from one patient to the other. The possibility of this transmission may be granted; but other experiments are necessary to prove it, and to determine whether the leeches are not destroyed by the virulent principle they imbibe; whether the poison is destroyed by them; and if so, at what period do they become innocuous.

On a New Species of Strangulation in the Tunica Vaginalis Testis, followed by Internal Strangulation. By M. Laugier.[1]—M. Laugier, surgeon to the Hospital Beaujon, presented to the academy a pathological specimen, which is an extrordinary example of the above strangulation, caused by a circular fold of peritoneum, the edge of which surrounds the superior orifice of the inguinal canal, and the free border of which floats in the abdomen, forming a sort of prolongation of the inguinal canal. It was formed by a double fold of peritoneum detached from the anterior wall of the abdomen. It was easily passed into the tunica vaginalis (like the finger of a glove cut off) from ten to twelve lines. It was returned with equal facility. A portion of small intestine, about a foot in length, had pushed this production before it in passing into the sac of the tunica vaginalis, and became strangulated by the floating ring. The strangulation, therefore, was not at the neck of the sac, as usually occurs in congenital hernia; neither was it an encysted congenital hernia, for there was no secondary sac, but a ring at the free part of the floating fold. The reduction of the strangulated hernia produced the separation of the circular band which surrounded the intestine, and the external strangulation became internal, without there being any possibility of suspecting before death a similar course of strangulation in the tunica vaginalis and internal strangulation.

The dissection revealed the existence of a similar fold on the opposite side, and the patient had a congenital reducible hernia in the left groin. But as there was neither strangulation nor rupture, the free border of the fold was rounded, and not broken as on the right side. No similar disposition of parts has been hitherto recorded. If it had been possible to suspect it during life, it is not likely that an attempt at reduction would have been made, for the reduction itself was the cause of the strangulation, in producing rupture of the fold. Gastrotomy was the only operation that could have been practised, but the rapid death of the patient prevented this.

[1] Bulletin de l'Académie Royale de Médecine, Juin 30, 1840; and Br. and For. Med. Rev., Oct. 1840, p. 565.

Peritonitis from Injections into the Uterus, the Injections passing through the Fallopian Tubes into the Cavity of the Peritoneum. By M. Hourmann.[1]—A patient who was in the hospital of Loursine, under M. Hourmann, labouring under leucorrhœa, was ordered an injection into the uterine cavity. It was administered by means of a clyster pump, and at the first stroke of the piston the patient uttered a sharp cry, and pressed the hand strongly on the left iliac region. Symptoms of metroperitonitis came on, and the most energetic treatment was adopted. It being an important practical point to determine whether peritonitis was likely to ensue from uterine injections, several novel experiments were made in the hospital of Loursine to determine whether liquids would pass along the Fallopian tubes into the cavity of the peritoneum; and it was found that injections with an arterial syringe passed into the tubes. Abundant injections by means of syringes double the size of urethral syringes passed into the tubes, preceded by a certain quantity of air. In some few cases small quantities passed quite through the tubes. As this matter is to undergo further examination, we shall defer further notice of it at present.

On the Radical Cure of Inguinal Hernia by the Horizontal Position, after the plan of M. Ravin. By M. Biagini.[2]—A man, thirty-two years of age, consulted M. Biagini on account of a tumour in the left inguinal region, which this physician considered to be an entero-bubonocele, and which had resisted all efforts at reduction. M. Biagini proposed a long continuance in the horizontal posture to the patient, aided by compression, but he refused it. A year afterwards the man was obliged to put himself under treatment for articular rheumatism, complicated by pericarditis. After three months decubitus, which was consequent on the rheumatic affection and its treatment, the hernia did not exist, nor could it be made to appear by any effort or coughing. M. Biagini felt assured that the left external inguinal ring was singularly contracted. He considered this case as confirmative of the views of M. Ravin, and drew the following conclusions: 1. It is possible to obtain a radical cure of some herniæ by a long continuance of the horizontal position. 2. The cure takes place by a diminution in the size of the canal and the retraction of its walls, by which the lost obliquity is restored. These changes occur solely by the *vis tonica* of the tissues. 3. Though the tissues possess sufficient *vis tonica* to bring about the desirable changes, it is necessary that the general strength of system of the patient be somewhat considerable.

New Operation for the Cure of Vaginal Cystocele. By M. Jobert, Surgeon to the Hospital of St. Louis.[3]—The following is the substance of a report made to the Royal Academy of Medicine, by a committee consisting of MM. Blandin, Danyan, and Gimelle.

M. Jobert divides his memoir into three parts: in the first, he treats of the history of the disease, and the modes of treatment which have been hitherto employed for its removal. In the second, he proceeds to point out his method of obtaining a radical cure. In the third, he gives some new ideas, based on his pathological researches, with regard to the mode of formation of the cystocele.

Vaginal cystocele was treated of in the work of Leblanc, printed in 1775. Since that time, many surgical authors have noticed it; all have attributed it to a rupture or abrasion of the anterior wall of the vagina, allowing the bladder to pass into the cavity of the former, filling it by its distention, and

[1] Gazette Médicale, Juillet 11, 1840; and Br. and For. Med. Rev., Oct. 1840, p. 566.

[2] Bulletino delle Scienze Mediche, Gennario, 1840; and Br. and For. Med. Rev., Oct. 1840, p. 569.

[3] Bulletin de l'Académie Royale de Médecine, Mai 15, 1840; and Br. and For. Med. Rev., Oct. 1840, p. 575.

causing a projection, more or less considerable, through the os externum. Until lately, palliative means alone have been adopted, which were totally incapable of effecting a radical cure. Pessaries under all forms can be but palliatives.

The well-known operations of Marshall Hall and Dieffenbach have been performed with success by Berard and Velpeau in cases of prolapsus uteri, in which the bladder and vagina have been also drawn down; by these means the displaced parts may be retained within the cavity of the vagina; but in cystocele, M. Jobert says the bladder has an abnormal magnitude, and although it does not project from the vulva, it is nevertheless displaced, resting in such a manner on the perineal surface of the vagina, that the anterior wall of the bladder becomes superior. Thus, after the operation just named, though there is not external projection, the organ is not able to regain its ordinary size or position.

M. Jobert considers that in order to effect a radical cure, three things must be done: first, the bladder must be restored to its natural situation; second, the anterior wall of the vagina distended by the tumour must be reduced to its ordinary proportions, so as to maintain the bladder when replaced; but this latter result cannot be obtained by causing a loss of substance in this wall, and reuniting the edges according to the method of Hall, without injuring the orifice of the vulva. The proceeding has also entailed great difficulties in its execution, and possibly severe accidents, therefore the author substitutes, thirdly, the following method: He incloses within two curved transverse lines an oval space, more or less considerable, on the posterior surface of the tumour, or the anterior surface of the vagina, by means of caustic, so as to form an isolated spot, repeating the application of the caustic until the mucous membrane is destroyed. He then pares the edges with scissors or a bistoury, draws them together, and maintains them in apposition by means of straight needles, the points of which are removed, and a twisted suture.

Jobert operated in this manner on the 23d of July, 1838, on a female aged forty-five, of strong constitution, who presented at the aperture of the vulva a very large cystocele, which elevated the nymphæ and descended above the urethra and clitoris. The tumour was reddish. The patient easily returned and reproduced it. She often experienced acute pains in the abdomen, and the tumour became excoriated from friction. She had frequent desire to pass urine, the emission of which was often difficult. The tumour was five inches in length, from the orifice of the urethra to the neck of the uterus, and eight inches in circumference.

Seven needles were applied: four large and three small ones. They were lance-shaped, and were contained in sheaths, which alone were left to retain the threads when the suture was made. One of the large needles was applied to each extremity of the oval formed by the circumscribed space, two others in the middle, the small ones filling up the intervals. A sound of gum elastic was introduced into the bladder, and left there in order to prevent the accumulation of urine, and the distention of the viscus. The reunion of the edges of the wound arrested the flow of blood, and no accident occurred. Four of the sheaths of the needles which retained the sutures were removed on the 3d of August, the others fell of themselves on the 5th and 7th. The sound was discontinued on the 20th of the same month. The woman returned to her occupation as a laundress, and at the end of the month of January, 1839, the time at which she was examined, nothing unfortunate had happened.

Since this time two other cases, presenting the same symptoms as that just related, were operated upon in the same manner by M. Jobert, and the result in all the cases has been equally favourable. Two of the committee appointed by the academy were able to testify to this in one case.

But after the cure of these patients, the anterior wall of the vagina underwent a contraction throughout its whole length, and the uterus was propor-

tionally prolapsed. M. Jobert now prevents this inconvenience by applying the caustic in a vertical instead of transverse direction. In this way the vagina is retained, and remains of its full length, the uterus suffering no displacement.

Jobert has shown by his pathological researches that the anterior wall of the vagina is neither ruptured nor abraded in the displacement of the bladder called cystocele, but that this disease is the result of the relaxation of the superior pelvic fascia, which, having been distended by the elevation of the womb in successive pregnancies, loses its elasticity, and no longer sustains the anterior wall of the vagina after delivery in a proper manner; and in this case a fall, an effort, the habit of retaining the urine in the bladder for too long a period, and in too great a quantity, are causes sufficient to produce the disease.

Jobert performed the same operation with success in a case of eversion of the mucous membrane of the posterior wall of the vagina; and the committee are of opinion that it may be practised in similar states of the same tissue in other natural passages.

Therapeutic Considerations on Obliterations of the Veins in the Treatment of Varix and Varicose Ulcers. By M. Jobert.[1]—In this paper, M. Jobert relates six cases, and states that he could describe twelve others, in all of which the treatment of varicose veins by producing the obliteration of their trunks by needles and twisted sutures, or other means, though at first it seemed promising, had ultimately proved completely unsuccessful. In all the patients who were thus treated, the varicose ulcers returned a short time after they left the hospital, as it was believed, perfectly cured; and the return took place in these cases more rapidly than in all probability it would if only the ordinary treatment by rest, poultices, and bandages had been pursued.

[After the statement of these facts and those recorded by Bonnet, (Brit. and For. Med. Rev. No. ix. p. 252,) few will hesitate to agree with the author that the obliteration of the veins by the needle and suture, however harmless an operation it may be, is not one which the surgeon has any authority or encouragement in undertaking in the treatment of varicose ulcers. The histories of the cases hitherto published in this country have not extended to the period after the operation at which the fair promises that it affords at first are dispelled.]

We extract from the British and Foreign Medical Review the following epitome of cases in some of the British journals, for the quarter ending August 31, 1840.

EDINBURGH MEDICAL AND SURGICAL JOURNAL, JULY, 1840, No. 144.

Observations on the Diseases of Peru. By Archibald Smith, M. D.—This is the conclusion of the paper noticed in our last number. It contains some interesting details, particularly on the influence of climate and locality on hæmoptysis and phthisis.

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Cases of Great Enlargement of the Stomach: with Remarks. By J. H. Peebles, M. D., Physician to the Edinburgh Infirmary.—This is a monograph consisting chiefly of a collection of cases from various authors. It will be useful for reference to the practical physician.

[1] Bulletin de Thérapeutique, Mai, 1840; and Br. and For. Med. Rev., Oct. 1840, p. 577.

Cases of Deformity of the Feet cured by the Operation of Stromeyer. By Robert Thomson, Esq., Surgeon, Dundee.—The author here gives the results of fifteen cases, seven of which are detailed at length. The treatment was highly creditable to Mr. Thomson, and his paper merits the notice of surgeons.

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On Anomalous Affections of the Respiratory Organs. By John Gardner, M. D., Edinburgh.—Cases of this kind must be familiar to practitioners of experience in hysterical females of feeble frame, and who are often said to be the subjects of spinal irritation. Dr. Gardner calls attention to the employment of *blisters to the nape of the neck*, as found useful in such cases; and he suggests the same remedy, on theoretical principles but from a fair analogy, in hooping-cough and laryngismus stridulus.

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On Nervous Headache from Exhaustion, and its Treatment with Aconite. By T. H. Burgess, M. D.—Dr. Burgess notices two conditions of system in which nervous headache is apt to ensue: one of general anemia; the other debility from nervous exhaustion. In these, and also in other kinds of headache, he has found the extract of aconite, in doses of rather less than a grain given every two or three hours, very useful.

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On the Action of Hydrated Sesquioxide of Iron on Arsenic. By Douglas Maclagan, M. D., &c.—This is a valuable paper, and confirms the results previously arrived at of the antidotal powers of this salt of iron. Dr. Maclagan further proves that the salt acts chemically on the arsenious acid. He is of opinion that it is better fitted for removing the arsenic from its solution when precipitated by ammonia than when precipitated by potash, and that it answers better when preserved moist.

DUBLIN JOURNAL, JULY 1840.

On Cod-Oil. By M. Donovan, Esq.—This has been a good deal used on the continent of late years as a remedy in scrofula, (see Br. and For. Med. Rev., vol. viii. p. 554, and vol. ix. p. 553,) and with supposed benefit. The present paper is valuable in showing how this medicine can be rendered palatable, which is effected by using a temperature in its expression not exceeding 192°. But Mr. Donovan's paper merits perusal.

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On the Utility of the Oxymuriate of Mercury in the Strumous Ophthalmia. By John Hamilton, Esq.—In addition to the usual local remedies, Mr. Hamilton employs with the greatest advantage this preparation of mercury internally, in doses of from one sixteenth to one eighth of a grain, in Tinct. or Decoct. Cinch., twice a day. This practice he borrowed from Sir P. Crampton, who learned it from Dr. M'Evoy. Mr. Hamilton gives several cases illustrating the great efficacy of the treatment.

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On the Hydrocyanoferrate of Quinina; a febrifuge of greater power than the Sulphate. By M. Donovan.—This remedy has been employed in Italy, and is said to answer where the ordinary salt fails. Mr. Donovan gives formulæ for the preparation and administration of the remedy.